

FORM PTO-1449

INFORMATION DISCLOSURE STATEMENT



Docket No: LD0189 NP Sheet 2 of 16
 Serial No.: 10/051,727 Group: 1614
 Applicant: Bandyopadhyay et al.
 Filing Date: January 17, 2002

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U.S. PATENT DOCUMENTS

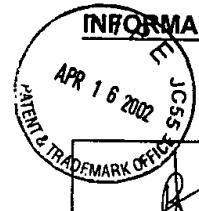
Examiner Initial	Document Number	Date	Name	Class	Sub class	Filing Date
AA	08/856,533	5/14/97	Nicolaou, K., et al.			5/14/97
AB	08/925,669	9/4/97	Nicolaou, K., et al.			9/4/97
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AD	6,194,181 B1	2/27/01	Hofmann, H., et al.			2/12/99
AE	6,204,388 B1	3/20/01	Danishefsky, S.J., et al.			2/24/99
AF	6,211,412 B1	4/3/01	Georg et al.			3/29/99

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BA	4138042.8	5/27/93	Germany (German and English abstract)			
BB	19639456.2	5/29/97	Germany (German and English translation)			
BC	19542986.9	5/29/97	Germany (German and English translation)			
BD	19636343.8	3/5/98	Germany (German and English abstract)			
BE	19645361.5	4/30/98	Germany (German and English abstract)			
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BG	19647580.5	5/28/98	Germany (German and English translation)			
BH	19701758	7/23/98	Germany (German and English abstract)			
BI	19707505.3	9/3/98	Germany (German and English abstract)			
BJ	19713970	10/8/98	Germany (German and English abstract)			
BK	19720312	11/19/98	Germany (German and English abstract)			
BL	19821954	11/19/98	Germany (German and English abstract)			
BM	879 605	11/25/98	Europe (German and English abstract)			
BN	19726627	12/24/98	Germany (German and English abstract)			
BO	93/10121	5/27/93	World (PCT as published and English abstract)			
BP	97/19086	5/29/97	World (PCT as published and English translation)			
BQ	98/08849	3/5/98	World (PCT as published and English abstract)			
BR	98/22461	5/28/98	World (PCT as published and English translation)			
BS	98/24427	6/11/98	World			

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Docket No: LD0189 NP Sheet 2 of 6
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	BT	98/25929	6/18/98	World (PCT as published and priority documents: U.S. 60/032,864, 08/856,533, 08/923,869)		TECH CENTER 2000/2000	APR 19 2002	RECEIVED
	BU	98/38192	9/3/98	World (PCT as published and English abstract)				
	BV	98/47891	10/29/98	World (PCT as published and English abstract)				
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	BX	99/03848	1/28/99	World (PCT as published and English abstract)				
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	BZ	99/39694	8/12/99	World (PCT as published)				
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	BAE	00/66589	11/9/00	World (PCT as published)				
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	BAH	00/31247	6/2/00	World (PCT as published)				
	BAI	00/49021	8/24/00	World (PCT as published)				
	BAJ	99/67252	12/20/99	World (PCT as published)				
	BAK	99/27890	6/10/99	World (PCT as published)				
	BAL	99/54319	10/28/99	World (PCT as published)				

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CA	Balog, A., et al., "Total Synthesis of (-)-Epothilone A", <i>Angew. Chem. Int. Ed. Engl.</i> , Vol. 35, No. 23/24, 2801-2803 (1996)
CB	Bertini, F., et al., "Alkenes from Epoxides by Reductive Elimination with Magnesium Bromide-Magnesium Amalgam", <i>Chem. Commun.</i> , 144 (1970)
CC	Bollag, D.M., et al., "Epothilones, A New Class of Microtubule-stabilizing Agents with a Taxol-like Mechanism of Action", <i>Cancer Res.</i> 55, No. 11, 2325-2333 (1995)
CD	Fujisawa, T., et al., "Deoxygenation of Epoxides to Olefins with FeCl ₃ - n-BuLi System", <i>Chem. Lett.</i> , 883-886 (1974)
CE	Fujiwara, Y., et al., "Reductive Coupling of Carbonyl Compounds to Olefins by Tungsten Hexachloride-Lithium Aluminum Hydride and Some Tungsten and Molybdenum Carbonyls", <i>J. Org. Chem.</i> , Vol. 43, No. 12, 2477-2479 (1978)

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Docket No: LD0189-NP Sheet 8 of 6
 Serial No.: 10051427X Group: 1614
 Applicant: Bandyopadhyay et al.
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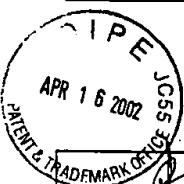
	CF	Gladysz, J. A., et al., "Deoxygenation of Epoxides by Metal Atom Cocondensation", <i>J. Org. Chem.</i> , Vol. 41, No. 22, 3647-3648 (1976)
	CG	Hoffle, G., et al., "Epothilone A and B - Novel 16-Membered Macrolides with Cytotoxic Activity: Isolation, Crystal Structure, and Conformation in Solution", <i>Angew. Chem. Int. Ed. Engl.</i> , Vol. 35, No. 13/14, 1567-1569 (1996)
	CH	Hoffle, G., et al., "N-Oxidation of Epothilone A-C and O-Acy! Rearrangement to C-19 and C-21 -Substituted Epothilones", <i>Angew. Chem. Int. Ed.</i> , Vol. 38, No. 13/14, 1971-1974 (1999)
	CI	Inokuchi, T., et al., "Opening of Epoxides to Olefins or Halohydrins with Vanadium(II)-Tetrahydrofuran or Vanadium(III)-Tetrahydrofuran Complexes", <i>Synlett</i> , No. 6, 510-512 (1992)
	CJ	Kowalski, R. J., et al., "Activities of the Microtubule-stabilizing Agents Epothilones A and B with Purified Tubulin and in Cells Resistant to Paclitaxel (Taxol®)" <i>J. Biol. Chem.</i> , Vol. 272, No. 4, 2534-2541 (1997)
	CK	Kupchan, S. M., et al., "Reductive Elimination of Epoxides to Olefins with Zinc-Copper Couple", <i>J. Org. Chem.</i> , Vol. 36, No. 9, 1187-1190 (1971)
	CL	Martin, M. G., et al., "Epoxides as Alkene Protecting Groups. A Mild and Efficient Deoxygenation", <i>Tetrahedron Letters</i> , Vol. 25, No. 3, 251-254 (1984)
	CM	McMurry, J. E., et al., "Reduction of Epoxides to Olefins with Low Valant Titanium", <i>J. Org. Chem.</i> , Vol. 40, No. 17, 2555-2556 (1975)
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	CO	Meng, D., et al., "Remote Effects in Macrolide Formation Through Ring-Forming Olefin Metathesis: An Application to the Synthesis of Fully Active Epothilone Congeners", <i>J. Am. Chem. Soc.</i> , Vol. 119, No. 11, 2733-2734 (1997)
	CP	Nicolaou, K. C., et al., "An Approach to Epothilones Based on Olefin Metathesis", <i>Angew. Chem. Int. Ed. Engl.</i> , Vol. 35, No. 20, 2399-2401 (1996)
	CQ	Nicolaou, K. C., et al., "Total Synthesis of Epothilone A: The Macrolactonization Approach", <i>Angew. Chem. Int. Ed. Engl.</i> , Vol. 36, No. 5, 525-527 (1997)
	CR	Nicolaou, K. C., et. al., "Designed Epothilones: Combinatorial Synthesis, Tubulin Assembly Properties, and Cytotoxic Action against Taxol-Resistant Tumor Cells", <i>Angew. Chem. Int. Ed. Engl.</i> , Vol. 36, No. 19, 2097-2103 (1997)
	CS	Nicolaou, K.C., et al., "The Olefin Metathesis Approach to Epothilone A and Its Analogues", <i>J. Am. Chem. Soc.</i> , Vol. 119, No. 34, 7960-7973 (1997)
	CT	Nicolaou, K. C., et al., "Total Syntheses of Epothilones A and B via a Macrolactonization-Based Strategy", <i>J. Am. Chem. Soc.</i> , Vol. 119, No. 34, 7974-7991 (1997)

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Docket No: LD0189 NP Sheet 4 of 6
Serial No.: 10/051,727 Group: 1614
Applicant: Bandyopadhyay et al.
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OTHER (Including Author, Title, Date, Pertinent Pages, etc.) (Continued)

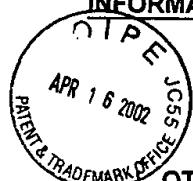
CU	Nicolaou, K. C., et al., "Synthesis of Epothilones A and B in Solid and Solution Phase", <i>Nature</i> , Vol. 387, 268-272 (1997)
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CW	Raucher, S., et al., "Total Synthesis of (+)-Dihydrocostunolide via Tandem Cope-Claisen Rearrangement", <i>J. Org. Chem.</i> , Vol. 51, No. 26, 5503-5505 (1986)
CX	Sato, M., et al., "Reduction of Organic Compounds with Low-Valent Niobium (NbCl ₅ /NaAlH ₄)", <i>Chem. Letters</i> , 157-160 (1982)
CY	Schinzer, D., et al., "Total Synthesis of (-)-Epothilone A", <i>Angew. Chem. Int. Ed. Engl.</i> , Vol. 36, No. 5, 523-524 (1997)
CZ	Schobert, R., et al., "Reduction and Isomerization of Oxiranes and α-Diazoketones by Various Early Transition Metalloccenes", <i>Synlett</i> , Vol. 8, 465-466 (1990)
CAA	Sharpless, K. B., et al., "Lower Valence Tungsten Halides. A New Class of Reagents for Deoxygenation of Organic Molecules", <i>J. Amer. Chem. Soc.</i> , Vol. 94, No. 18, 6538-6540 (1972)
CAB	Su, D.-S., et al., "Total Synthesis of (-)-Epothilone B: An Extension of the Suzuki Coupling Method and Insights into Structure-Activity Relationships of the Epothilones", <i>Angew. Chem. Int. Ed. Engl.</i> , Vol. 36, No. 7, 757-759 (1997)
CAC	Su, D.-S., et al., "Structure-Activity Relationships of the Epothilones and the First In Vivo Comparison with Paclitaxel", <i>Angew. Chem. Int. Ed. Engl.</i> , Vol. 36, No. 19, 2093-2096 (1997)
CAD	Victory, S. F., et al., "Relative Stereochemistry and Solution Conformation of the Novel Paclitaxel-Like Antimitotic Agent Epothilone A", <i>Bioorg. Med. Chem. Letts.</i> , Vol. 6, No. 7, 893-898 (1996)
CAE	Winkler, J. D., et al., "A Model For The Taxol (Paclitaxel)/Epothilone Pharmacophore", <i>Bioorg. Med. Chem. Letts.</i> , Vol. 6, No. 24, 2963-2966 (1996)
CAF	Yang, Z., et al., "Total Synthesis of Epothilone A: The Olefin Metathesis Approach", <i>Angew. Chem. Int. Ed. Engl.</i> , Vol. 36, No. 1/2, 166-168 (1997)
CAG	Bollag, D., et al., "Epothilone, A New Structural Class of Microtubule Stabilizer", Abstract, <i>Proc. Am. Assoc. Cancer Res.</i> , Vol. 36, 86 Meet. 454 (1995)
CAH	Bollag, D., "Epothilones: Novel Microtubule-Stabilising Agents", <i>Expert Opin. Invest. Drugs</i> , Vol. 6, No. 7, 867-873 (1997)
CAI	Bertinato, P., et al., "Studies Toward a Synthesis of Epothilone A: Stereocontrolled Assembly of the Acyl Region and Models for Macrocyclization", <i>J. Org. Chem.</i> , Vol. 61, No. 23, 8000-8001 (1996)
CAJ	<i>Chemical & Engineering News</i> , "Epothilone Epiphany: Total Syntheses", Vol. 74, No. 52, 24-26 (1996)
CAK	<i>Chemical & Engineering News</i> , "First Total Synthesis of Epothilone B", Vol. 75, No. 13, 23 (1997)

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Sheet 5 of 6
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OTHER (Including Author, Title, Date, Pertinent Pages, etc.) (Continued)

	CAL	Chemical & Engineering News, "Solid-Phase Epothilone Synthesis Used to Create Analog Library", Vol. 75, No. 20, 33 (1997)
	CAM	Claus, E., et al., "Synthesis of the C1-C9 Segment of Epothilons", <i>Tetrahedron Lett.</i> , Vol. 38, No. 8, 1359-1362 (1997)
	CAN	De Brabander, J., et al., "Towards a Synthesis of Epothilone A: Rapid Assembly of the C1-C6 and C7-C12 Fragments", <i>Synlett</i> , Vol. 7, 824-826 (1997)
	CAO	Gabriel, T. and Wessjohann, L., "The Chromium-Reformatsky Reaction: Asymmetric Synthesis of the Aldol Fragment of the Cytotoxic Epothilons from 3-(2-Bromoacyl)-2-Oxazolidinones", <i>Tetrahedron Lett.</i> , Vol. 38, No. 8, 1363-1366 (1997)
	CAP	Gerth, K., et al., "Epothilons A and B: Antifungal and Cytotoxic Compounds from <i>Sorangium cellulosum</i> (Myxobacteria) Production, Physico-chemical and Biological Properties", <i>J. Antibiotics</i> , Vol. 49, No. 6, 560-563 (1996)
	CAQ	Marshall, A., "Total Synthesis of Epothilone", <i>Nature Biotechnology</i> , Vol. 15, No. 3, 205 (1997)
	CAR	Meng, D., et al., "Studies Toward a Synthesis of Epothilone A: Use of Hydroxyran Templates for the Management of Acyclic Stereochemical Relationships", <i>J. Org. Chem.</i> , Vol. 61, No. 23, 7998-7999 (1996)
	CAS	Meng, D., et al., "Total Syntheses of Epothilones A and B", <i>J. Am. Chem. Soc.</i> , Vol. 119, No. 42, 10073-10092 (1997)
	CAT	Menschling, S. and Kalesse, M., "Generation of Thiazoles by Column Dehydrogenation of Thiazolidines with MnO ₂ ", <i>J. Prakt. Chem.</i> , Vol. 339, No. 1, 96-97 (1997)
	CAU	Mulzer, J. and Mantoudidis, A., "Synthesis of the C(1)-C(9) Segment of the Cytotoxic Macrolides Epothilon A and B", <i>Tetrahedron Lett.</i> , Vol. 37, No. 51, 9179-9182 (1996)
	CAV	Nicolaou, K., et al., "Chemistry, Biology and Medicine of Selected Tubulin Polymerizing Agents", <i>Pure Appl. Chem.</i> , Vol. 71, No. 6, 989-997 (1999)
	CAW	Nicolaou, K., et al., "Total Synthesis of Epothilone E and Related Side-chain Modified Analogues Via a Stille Coupling Based Strategy", <i>Bioorg. Med. Chem.</i> , Vol. 7, No. 5, 665-697 (1999)
	CAX	Schinzer, D., et al., "Studies Towards the Total Synthesis of Epothilones: Asymmetric Synthesis of the Key Fragments", <i>Chem. Eur. J.</i> , Vol. 2, No. 22, 1477-1482 (1996)
	CAY	Taylor, R. and Haley, J., "Towards the Synthesis of Epothilone A: Enantioselective Preparation of the Thiazole Sidechain and Macroyclic Ring Closure", <i>Tetrahedron Lett.</i> , Vol. 38, No. 12, 2061-2064 (1997)
	CAZ	Schinzer, D., et al., "Syntheses of (-)-Epothilone A", <i>Chem. Eur. J.</i> , Vol. 5, No. 9, 2483-2491 (1999)
✓	CBA	Schinzer, D., et al., "Syntheses of (-)-Epothilone B", <i>Chem. Eur. J.</i> , Vol. 5, No. 9, 2492-2500 (1999)

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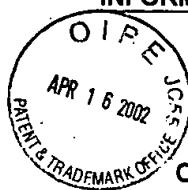
Docket No. LDD18910P Sheet 6 of 6

Serial No.: 10/051,227 CEN 1600/2800

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<i>[Signature]</i>	CBB	Nicolaou, K. C., et al., "Synthesis and Biological Properties of C12,13-Cyclopropylepothilone A and Related Epothilones", <i>Chemistry & Biology</i> , Vol. 5, No. 7, 365-372 (1998)
	CBC	Altmann, K.H., et al., "Epothilones and Related Structures – A New Class of Microtubule Inhibitors With Patent In Vivo Antitumor Activity," <i>Biochim. Biophys Acta</i> , 1470 (2000)
	CBD	Nicolaou et al., "Total Synthesis of Epothilone E and Analogs with Modified Side Chains Through The Stille Coupling Reaction", <i>Angew. Chem. Int. Ed.</i> 37, 84-87 (1998)
	CBE	Nicolaou et al., "Total Synthesis of Oxazole- and Cyclopropane-Containing Epothilone B Analogues by the Macrolactonization Approach", <i>Chemistry, European Journal</i> , Vol. 3, No. 12, 1971-1986 (1997)
<i>[Signature]</i>	CBF	Nicolaou et al., "Chemical Biology of Epothilones", <i>Angew. Chem. Int. Ed.</i> , 37, 2014-2045 (1988)

L. channarajala

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